

Learning Styles

(from Penn State website, Teaching & Learning with Technology)

Information about learning styles can serve as a guide to the design of learning experiences that either match, or mismatch, students' styles.

Rationale

Information about students' learning style is important to both instructors and students because:

- Instructors need to understand their students' learning styles in order to adapt their teaching methods accordingly.
- Students who know their own learning style become better learners.
- Instructors will better understand the differences among the students.
- If an instructor's learning style differs from that of many of his or her students, the instructor may need to make adjustments in how material is presented.

VARK Learning Styles (Fleming & Mills)

The acronym VARK stands for Visual, Aural, Read/write, and Kinesthetic sensory modalities that are used for learning information.

Visual (V)

This preference includes the depiction of information in charts, graphs, flow charts, and all the symbolic arrows, circles, hierarchies and other devices that instructors use to represent what could have been presented in words.

Aural / Auditory (A)

This perceptual mode describes a preference for information that is "heard." Students with this modality report that they learn best from lectures, tutorials, tapes, group discussion, speaking, web chat, talking things through.

Read/write (R)

This preference is for information displayed as words. Not surprisingly, many academics have a strong preference for this modality. This preference emphasizes text-based input and output — reading and writing in all its forms.

Kinesthetic (K)

By definition, this modality refers to the "perceptual preference related to the use of experience and practice (simulated or real)." Although such an experience may invoke other modalities, the key is that the student is connected to reality, "either through experience, example, practice or simulation."

Index of Learning Styles "ILS," (Felder & Soloman)

Active and reflective learners

Active learners tend to retain and understand information best by doing something active with it—discussing or applying it or explaining it to others. Reflective learners prefer to think about it quietly first.

"Let's try it out and see how it works" is an active learner's phrase; "Let's think it through first" is the reflective learner's response.

Active learners tend to like group work more than reflective learners, who prefer working alone.

Sitting through lectures without getting to do anything physical but take notes is hard for both learning types, but particularly hard for active learners.

Sensing and intuitive learners

Sensing learners tend to like learning facts; intuitive learners often prefer discovering possibilities and relationships.

Sensors often like solving problems by well-established methods and dislike complications and surprises; intuitors like innovation and dislike repetition. Sensors are more likely than intuitors to resent being tested on material that has not been explicitly covered in class.

Sensors tend to be patient with details and good at memorizing facts and doing hands-on (laboratory) work; intuitors may be better at grasping new concepts and are often more comfortable than sensors with abstractions and mathematical formulations.

Sensors tend to be more practical and careful than intuitors; intuitors tend to work faster and to be more innovative than sensors.

Sensors don't like courses that have no apparent connection to the real world; intuitors don't like "plug-and-chug" courses that involve a lot of memorization and routine calculations.

Visual and verbal learners

Visual learners remember best what they see—pictures, diagrams, flow charts, time lines, films, and demonstrations.

Verbal learners get more out of words—written and spoken explanations. Everyone learns more when information is presented both visually and verbally.

Sequential and global learners

Sequential learners tend to gain understanding in linear steps, with each step following logically from the previous one. Global learners tend to learn in large jumps, absorbing material almost randomly without seeing connections, and then suddenly "getting it."

Sequential learners tend to follow logical stepwise paths in finding solutions; global learners may be able to solve complex problems quickly or put things together in novel ways once they have grasped the big picture, but they may have difficulty explaining how they did it.

Meyers-Briggs Type Indicator "MBTI"

MBTI assigns four personality dimensions to individuals depending on how they perceive and interact with their environment.

Introvert (I) vs. Extrovert (E)

Introverts tend to prefer to focus on inward thoughts and feelings and may prefer a quiet environment for learning and to listen rather than talk in class.

Extraverts often prefer to talk aloud and are more comfortable interacting with others. These learners may prefer collaborative learning, thinking aloud and/or class discussion.

Faculty vs. Students (Brightman, no date):

"The majority of undergraduate students are extraverts. Based on data from the Center for Applied Psychological Type (CAPT) between 56% and 58% of over 16,000 freshman students at three state universities were extraverts. Interestingly, over 83% of college student leaders were extraverts, while over 65% of Phi Beta Kappas were introverts. The majority of university faculty are introverts."

Thinking (T) vs. Feeling (F)

Thinking students tend to prefer to use objective, impersonal facts to make decisions and form opinions. Thinking students may be more comfortable with personal conflicts than other students. Thinking students may prefer concrete language, working directly with data.

Feeling students tend to focus on emotions and personal values when making decisions and forming opinions and tend to value group harmony. Because students may form opinions based on emotional reactions or vague intuitions, they may need coaching to generate precise commentary or analysis.

Gender Differences and Student vs. Faculty (Brightman, no date):

"Unlike the two previous sets of preferences, CAPT reports that on this dimension, the proportion of males and females differ. About 64% of all males have a preference for thinking, while only about 34% of all females have a preference for thinking...The majority of university faculty have a preference for thinking. CAPT reported that almost 54% of 2,282 faculty are thinking. Seventy percent of business faculty have a preference for thinking."

Sensing (S) vs. Intuition (I)

Similar to "sensing students" above, these students prefer to focus on established facts, known procedures and linear presentations. These students tend to have stronger skills in memorizing details. However, concept maps may be recommended to help these students understand the "big picture."

Similar to "intuitive learners" above, these learners may see connections between seemingly random sets of data, but may not be as strong in remembering details. These students may prefer to see the entire framework first and fill in the details later.

Faculty vs. Students (Brightman, no date):

"The majority of undergraduate students are sensing students. Based on data from the Center for Applied Psychological Type (CAPT) between 56% and 72% of over 16,000 freshmen at three state universities were sensing students. Interestingly, almost 83% of national merit scholarship finalists and 92% of Rhodes Scholars were intuitive students. Our own data base indicates that over 65% of business majors are sensing students....The majority of university faculty are intuitive. CAPT reported that almost 64% of 2,282 faculty are intuitive."

Judging (J) vs. Perceptive (P)

Judging students tend to prefer to make immediate decisions based on initial input and may be considered "decisive". A danger for these students is to make a premature conclusion before examining all the data.

Perceptive students may not make decisions until they process all the data and may be considered "indecisive" or "wandering" (as they begin more tasks). A danger for these students is procrastination as they collect more data.

Student vs. Faculty (Brightman, no date):

"The majority of undergraduate students are judging students. Based on data from the Center for Applied Psychological Type (CAPT) between 46% and 60% of over 16,000 freshmen at three state universities were judging students...The majority of university faculty also has a preference for judging."